WHAT IS CLAIMED IS:

1. A 4-pole motor anisotropic bonded magnet characterized in that the said magnet has a hollow cylindrical shape and a maximum energy product greater than 14MGOe, formed by molding anisotropic rare-earth magnet powder with resin, wherein

the alignment distribution of the anisotropic rare-earth magnet powder in a cross section perpendicular to the axis of the anisotropic bonded magnet is in the normalized direction of the cylindrical side of the hollow cylindrical shape in the main region of a polar period, and in a transition region in which the direction of the magnetic pole changes, steadily points towards a direction tangential to the periphery of the cylindrical side at points closer to the neutral point of the magnetic pole, and becomes a direction tangential to the periphery of the cylindrical side at that neutral point, and steadily points toward the normalized direction of the cylindrical side at points farther away from the neutral point, and wherein

the 4-pole motor anisotropic bonded magnet in which the said alignment distribution is obtained is magnetized in an alignment direction.

2. The 4-pole motor anisotropic bonded magnet according to claim 1, characterized in that orientation of the anisotropic rare-earth magnet powder between transition regions is performed with an aligning magnetic field of greater that 0.5T.

3. The 4-pole motor anisotropic bonded magnet according to claim 1 or claim 2, characterized in that, for the surface magnetic flux density distribution in the normalized direction of the main polar period after magnetization of the anisotropic bonded magnet, the ratio of the difference between the maximum value and minimum value to the average value in this main region is 0.2 or less.

4. A motor having the 4-pole motor anisotropic bonded magnet according to any one of claims 1 through 3.

5. An alignment process apparatus for manufacturing, by molding using a die, a hollow cylindrical-shaped anisotropic bonded magnet for use in a 4-pole motor, the magnet being formed by molding anisotropic rare-earth magnet powder with resin, wherein the alignment process apparatus comprises:

a core comprising a column-shaped magnetic body provided in a die molding space;

a cavity of width 0.7 to 3mm for filling with the anisotropic bonded magnet raw material and molding the magnet, the cavity being formed in a cylindrical shape on the outer periphery of the core;

No.1 one dice, comprising of a magnetic body divided into quarters forming an aligning magnetic field in the normalized direction of the cavity, disposed on the outer periphery of the core and facing the center of the core;

No.2 two dice divided into quarters, comprising a non-magnetic body disposed on the outer periphery of the core and facing the center of the core, and, corresponding to the transition region in which the direction of the magnetic poles of the bonded magnet changes, located between the adjacent No.1 dice;

coils conferring magnetic flux on the four No.1 dice; and

a magnetic flux induction member comprising a thin-walled cylindrical magnetic body which forms the outer peripheral surface of the cavity.

6. The alignment process apparatus according to claim 5, characterized in that the thickness of the magnetic flux inducement member is 1.0 to 3.5mm.

7. The alignment process apparatus according to claim 5 or 6, characterized in that the magnetic flux inducement member is comprised of super-hard material.

8. The alignment process apparatus according to any of claims 5 through 7, characterized in that the aligning magnetic field of the region of the cavity in which the No. 2 dice are present induces magnetic flux greater than 0.5T.

9. The alignment process apparatus according to any one of claims 5 through 8, characterized in that it possesses a ring comprising cylindrical thin-wall magnetic super-hard material which forms the inner surface of the cavity, disposed on the outer periphery of the core.